

Application No. 10/722246
Inventors: James SAY et al
Application Filed: November 23, 2003
First Supplemental Preliminary Amendment

Listing of Claims:

1. (Currently amended) An insertion kit for inserting an electrochemical sensor into a patient, the insertion kit comprising:
an inserter comprising a portion having a sharp, ~~rigid, planar~~ structure adapted to support the sensor during insertion of the electrochemical sensor; and
an insertion gun having a port configured to accept the electrochemical sensor and the inserter, a driving mechanism for driving the inserter and the electrochemical sensor into the patient, and a retraction mechanism for removing the inserter from the patient while leaving at least a portion of the sensor within the patient.
2. (Original) The insertion kit of claim 1, wherein the insertion gun further comprises a cocking mechanism to maintain the inserter and electrochemical sensor in a cocked position prior to insertion into the patient, and a release mechanism to release the inserter and electrochemical sensor from the cocked position and permit the driving mechanism to drive the inserter and electrochemical sensor into the patient.
3. (Original) The insertion kit of claim 1, further comprising an electrochemical sensor for insertion into the patient using the inserter and insertion gun.
4. (Original) The insertion kit of claim 3 wherein the electrochemical sensor includes a barb to facilitate retention of the sensor within the patient.
5. (Original) The insertion kit of claim 3 wherein the electrochemical sensor is flexible.
6. (Original) The insertion kit of claim 1, wherein the insertion gun and inserter are configured to insert the electrochemical sensor into the patient at a depth of between about 2 to 12 mm.

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7. (Original) The insertion kit of claim 1, wherein the insertion gun and inserter are configured to insert the electrochemical sensor into the patient at an angle between about 15° to 60° relative to a surface of the patient.
8. (Original) The insertion kit of claim 1, wherein the inserter has a cross-sectional width of 1 mm or less.
9. (Original) The insertion kit of claim 1, wherein the inserter has a cross-sectional height of 1 mm or less.
10. (Original) The insertion kit of claim 1, wherein the inserter gun is configured to mate with a mounting base of a sensor control unit.
11. (Currently Amended) A sensor control system, comprising:
 - a sensor;
 - a mounting unit adapted for placement on skin of a patient; and
 - a transmitter unit attachable to the mounting unit ~~and operatively coupled to the sensor~~,
the transmitter unit further adapted for electrical communication with the sensor.
12. (Previously Presented) The system of claim 11 wherein the sensor is an electrochemical sensor.
13. (Previously Presented) The system of claim 11 wherein the sensor is configured to generate a signal representative of an analyte level of a patient.
14. (Previously Presented) The system of claim 11 wherein the transmitter unit is removably attached to the mounting unit.

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15. (Previously Presented) The system of claim 11 wherein the transmitter unit is integrated with the mounting unit.
16. (Previously Presented) The system of claim 11 wherein the transmitter unit is configured to wirelessly transmit data corresponding to a signal received from the sensor.
17. (Previously Presented) The system of claim 16 wherein the transmitter is configured to wirelessly transmit data to one or more of a receiver unit a data monitoring device, an infusion device, a personal digital assistant, a mobile telephone, a pager, or a computer terminal.
18. (Previously Presented) The system of claim 17 wherein the infusion device includes an insulin pump.
19. (Previously Presented) The system of claim 11 further including an adhesive layer disposed on a surface of the mounting unit so that the adhesive layer is positioned between the mounting unit and the skin of the patient.
20. (Previously Presented) The system of claim 11 wherein the mounting unit includes an opening, the opening configured to receive a portion of the sensor extending from the skin of the patient.
21. (Previously Presented) The system of claim 11 wherein the transmitter unit further includes a receiver configured to receive data.
22. (Currently Amended) The system of claim 11 wherein the mounting unit is removable ~~removeable~~ from the skin of the patient.

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23. (Previously Presented) The system of claim 22 wherein when the mounting unit is removed from the skin of the patient, the transmitter unit and the sensor are configured to be substantially simultaneously removed from the patient.
24. (Previously Presented) A method, comprising:
transcutaneously positioning a sensor in a patient;
attaching a mounting unit onto the skin of the patient; and
operatively coupling a transmitter unit to the mounting unit so that the transmitter unit is configured for electrical communication with the sensor.
25. (Previously Presented) The method of claim 24 wherein the sensor includes an electrochemical sensor.
26. (Previously Presented) The method of claim 24 wherein the steps of inserting the sensor and attaching the mounting unit are substantially simultaneously performed.
27. (Previously Presented) The method of claim 24 further including the step of detecting a signal representative of an analyte level of the patient.
28. (Previously Presented) The method of claim 27 further including the step of transmitting the signal representative of the analyte level.
29. (Previously Presented) The method of claim 24 further including the step of removing the mounting unit from the skin of the patient.
30. (Previously Presented) The method of claim 29 wherein the removing step includes the step of removing the sensor and the transmitter unit from the patient.